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THE GORALS OF INDIA AND BURMA.

By R. LYDEKKER, F.R.S., F.Z.S.

(PLATE I.)

A WELL-KNOWN big-game sportsman, Major G. H. Evans, of the Indian Veterinary Department at Rangoon, has recently forwarded to me a couple of skins of Gorals shot by himself some distance to the westward of Mount Victoria, in the Pakokku district of Upper Burma. In sending these specimens by a friend, he expressed his belief that they indicated an undescribed species, or race. This opinion I am able to endorse, as these skins are certainly very different from those of the typical Himalayan Goral (*Urotragus*, or *Cemas, goral*).

In this, of course, there is nothing surprising, as it is only what we should expect to be the case; but an examination of the skins in the British Museum has also led to the conclusion that there are two perfectly distinct forms of Himalayan Goral, which is certainly an unexpected development.

What I take to be the typical Himalayan Goral, as represented by skins in the British Museum collected by Brian Hodgson during his official residence at Khatmandu, is a rufous brown animal, only slightly paler below than on the back, with the face somewhat lighter and more rufous, but darkening towards the horns; and a white or whitish area on the throat and chin. Along the back, from nape to tail, runs a very conspicuous black

dorsal streak; the tail is wholly black above; and there is a blackish stripe down the front of the legs, which are elsewhere brown.

In the 'Fauna of British India' Mr. Blanford makes no mention of any colour-variation according to season, age, or sex; but Mr. Sterndale, in his work on the Mammals of India, states that the does and young are lighter-coloured than old bucks. On the other hand, General MacIntyre, in his 'Hindu-Koh,' states that the doe is like the buck in appearance, except for her thinner horns. He describes the colour as uniform greyish brown, with a white throat-patch.

At least three skins in the Hodgson collection conform to the above-mentioned brown type; but a fourth skin, with part of the skull, in the same collection, which appears to represent a fully adult animal, differs by its decidedly greyish fawn colour, the absence of a distinct dark dorsal stripe, and in certain other details. On the evidence of this one specimen I should have had considerable hesitation in admitting the existence of two forms of Himalayan Goral. The British Museum possesses, however, a mounted Goral skin, presented in 1897 by the Duke of Bedford, which belonged to an animal formerly living in His Grace's park at Woburn, and believed to be of Himalayan origin. This specimen agrees precisely with the one last mentioned. Its general colour is light yellowish grey-fawn, suffused with blackish; the white throat-patch extends largely on to the cheeks; there is no dorsal stripe; the muzzle has a dark median streak extending to the level of the eyes; the tail is blackish only at the base; and the fore legs have only a blackish "knee-cap," and the hind pair are wholly rufous fawn. In addition to these striking differences of colour, the ears of this Goral are larger than in the typical Brown Goral, and the horns are more curved and rougher. Like the grey skin in the Hodgson collection, the Duke of Bedford's specimen seems certainly to be adult, and is apparently a male. I cannot think the differences between this form and the typical Goral can be explained by season, sex, or age.

If this be so, we must assume either that the Himalayan Goral exhibits dimorphism, or that there are two local races or species, which must be presumed to inhabit separate areas or



different zones of altitude. I prefer to adopt the latter view; and I accordingly propose to name the Grey Himalayan Goral *Urotragus bedfordi*, taking the mounted specimen in the British Museum as the type. I may add that in regarding the Brown and the Grey Himalayan Gorals as distinct forms, I have the support of the eminent American naturalist, Mr. G. S. Miller, who is at present in this country. Mr. Miller, who agrees with me in regarding the two forms as species instead of races, remarked that the onus of proving them identical rests on those who refuse to admit their distinctness.

Turning now to Major Evans's Burmese specimens, it may be noted in the first place that these resemble the Grey Himalayan Goral in the absence of a black dorsal stripe, but differ by the general colour being a more brownish grey, heavily suffused with chocolate-brown; while there is no white on the cheeks, no dark mark on the upper surface of the muzzle, and the throat-patch is yellowish. The tail is blackish brown throughout; and the legs are coloured exactly the reverse of those of the typical Goral, being dark brown behind and rufous fawn in front. The horns are very small, nearly straight, and almost smooth.

This Goral I propose to name, after its discoverer, *Urotragus evansi*; and I hope that Major Evans may be induced to present the two type skins to the British Museum.

The three forms of Goral discussed above may be briefly diagnosed as follows:—

1. *Urotragus goral*.—Colour rufous brown, with a white patch on the throat and chin, a black dorsal stripe and tail, and a black stripe down the front of each leg. Horns comparatively straight, and not heavily ringed. Eastern Himalaya.

2. *Urotragus bedfordi* (Plate I.).—Colour yellowish grey-fawn suffused with blackish, the light throat-patch pure white and extending on to the cheeks, no distinct dorsal stripe, a dark streak on muzzle; base of tail and knees blackish, the rest of the legs being fawn. Horns more curved and more heavily ringed than in the last. Western (and in part? Eastern) Himalaya.

3. *Urotragus evansi*.—Colour brownish grey-fawn suffused with brown; throat-patch small and yellow; no stripe on muzzle or back; tail and back of legs dark brown, rest of legs rufous fawn. Horns very small. Upper Burma.

It may be added that the Goral figured in my 'Great and Small Game of India,' &c. (Rowland Ward), is *U. bedfordi*. In colour this animal accords in some respects with the description of *U. griseus* of Eastern Tibet; but the wide separation of the two forms may be regarded as sufficient evidence of their distinctness.

To determine the respective habitats of the two Himalayan Gorals must in part be left to others. Judging from its dark colour, I should be inclined to regard the brown species (*U. goral*) as a native of the damp forests of the Terai, and the grey *U. bedfordi* as an inhabitant of drier and colder forests. So far as my recollection carries, the Kashmir Goral is the grey type; and the description given by General MacIntyre would seem to indicate that he had to do with the same type of animal in Kumaon. This is confirmed by the fact that there is living at the present time in the London Zoological Gardens a specimen of *Urotragus bedfordi* from Chamba, presented in the summer of last year by Major Rodon. It therefore seems clear that the Grey Goral is the Eastern type; but it is possible that it may also range into part of the Nepal area.

ORNITHOLOGICAL NOTES FROM NORFOLK, 1904.

By J. H. GURNEY, F.Z.S.

(Assisted by several local Naturalists.)

A PROBLEM in East Anglian ornithology—one may say, in British ornithology—which must impress itself upon naturalists, and which is very difficult of solution, is the not infrequent presence in mid-winter (*i. e.* the months of December and January) of quite southern species; species, that is to say, like the Little Bustard and Serin Finch, whose breeding area lies a long way to the south of England, and whose proper winter quarters are the shores of the Mediterranean or Africa. Why such birds should be on our coast at such a time is a point for consideration, and one not easy of solution.

I am led to these remarks because, during January, 1904, no fewer than three such occurrences took place, *viz.* the Red-crested Ducks, the Citril Finch, and the Avocet. A short list may here be given—merely taking Norfolk and Suffolk—of former mid-winter visitations, which, if the last fortnight in November and the first fortnight in February were included, would be considerably extended. These waifs and strays are in all likelihood derived from the east of Russia, if not from Asia, and their presence in the British Isles can be ascribed to gales in Russia.

Red-breasted Flycatcher	...	December 12th, 1896.
Serin Finch	.....	January 31st, 1887.
Citral Finch	.....	January 29th, 1904.
Cirl-Bunting	.....	Four examples in Dec. or Jan.
Great Bustard	.....	Two or three " "
Little Bustard	.....	Six or seven " "
Avocet	.....	January 1st, 1904.
Allen's Gallinule	.....	January 1st, 1902.
Red-crested Duck	.....	Four or five examples.
Nyroca Duck	.....	Several examples.
Mediterranean Black-headed Gull	.....	December 26th, 1886.

These are ten rare species, and the Cirl-Bunting, which, when they do come, are to be expected in the spring or autumn; certainly not in the depth of winter.

The migrations of all birds, or rather, one should say, their intended migrations, if not carried elsewhere by wind, are to a colder land—*i. e.* to the north—in spring, and to a warmer land—*i. e.* to the south—in autumn. Surely birds can scarcely be led by instinct, of their own accord, to migrate from the east of Europe to the west at any period of the year. Such a flight, though it may often take place, can hardly be a voluntary one on their part, or undertaken by them in order to escape the rigours of a coming winter. Still less is it probable, long after winter has set in, as in the cases which have been mentioned (Red-breasted Flycatcher, Serin Finch, Red-crested Duck, &c.). It is true that England is somewhat more temperate than is the same latitude in Eastern Russia, but the difference is not very great. We may assume that certain birds—*e. g.* the Red-crested Pochard and Nyroca Duck—come to us from the Volga provinces, more especially Orenberg, Ufa, and Samara, or near there, between lat. 50° and 55° ; but, according to different authorities, the winters are not colder there than in England.

The twelve months which have just elapsed have perhaps not been, ornithologically, very eventful ones for Norfolk, yet there is always something to remark. In January there was the winter flight of Woodcocks, which often comes at or before Christmas, but the great month is November, when more come than in October. There was no weather hard enough to bring Wildfowl, and spring soon began to assert itself. Thrushes were singing on Feb. 7th at Brunstead, but it was some time before Wood-Pigeons began to coo and Snipe to drum (Rev. M. C. Bird). On April 2nd, Mr. W. G. Clarke found the well-known "Ringmere"—a large pond near Thetford—full of water, with three Ducks, believed to be Garganey Teal, on it; while on the small lake between "Ringmere" and "Langmere" he saw two Gadwall and four Garganeys (?). On "Langmere" itself there were seven Garganeys or Teal, and on "Foulmere" a number of Ducks which could not be identified.

The frequent presence of Spoonbills on Breydon (tidal) Broad during the spring, from April 18th to July, is due entirely to the protection afforded them by the "Breydon Wild Birds Protection Society"; and it is to be hoped the subscriptions to this useful institution will not fall off. It has been carrying on its work since 1887, but for most of that time with very meagre support.

Looking through the back volumes of 'The Zoologist,' it appears that in registering the visits of Spoonbills to Breydon Broad the wind has been noted in sixty-seven cases, and this seems almost enough to generalize upon. Forty Spoonbills, including two flocks, are considered to have arrived with a north-east wind, nineteen with a west wind, two with an east wind, two with a north wind, two with a south wind, and two with a south-west wind. It is natural to infer that the wind which brings the Spoonbill will be the wind for many other birds on their spring migration; yet north-east winds certainly do not, as a rule, bring birds from the south, though it is likely enough that they cause them to halt a while. Probably Breydon Spoonbills come from the east rather than from the south, *viz.* from a settlement in Holland, where, in 1898, Dr. P. L. Sclater found, in a strictly protected place, about three hundred pairs ('Ibis,' 1899, p. 124).

During July we had two or three of the hottest days I ever remember. The 15th and 16th were extremely hot. Barley looked bad, but hay on my side of Norwich averaged nearly 1½ ton an acre. This was a period of drought, and the atmosphere became charged with electricity, which culminated in a downpour on the 27th such as I never remember. I registered 2·95 in. of rain at Keswick, the greater part of which fell in two hours.

Short-eared Owls bred near Hickling (M. Bird), Greater Spotted Woodpeckers at Felbrigge (Davey), Goldfinches at Northrepps, Redpolls at Southacre (Daubeny), Woodcocks at Ranworth and Quidenham (Lord Albemarle), Sheld-Ducks at Blakeney, and for the tenth time, if not longer, Kingfishers occupied the same hole, and that beside a frequented path, on a stream near Aylsham (Buxton). An extraordinarily elongated Hedge-Accentor's egg, † 1·05 in. in length, was found at Catton, with others

of the normal shape, and some blue Partridge's eggs,† at Swardiston, of quite a bright tint.

On May 23rd a Cuckoo's egg was detected in a Hedge-Accentor's nest at Keswick, which will form the subject of another communication; and the following month a young Cuckoo was met with by Major Dods on Salthouse Heath in a Stonechat's nest, the first instance of that species being the Cuckoo's host in this county. Four of the Stonechat's eggs were resting on the rim of the nest when found on June 8th by Mr. Dods.

On June 22nd my daughter and I were shown a Nightjar covering two young ones at Hevingham, and so oblivious to danger that five of us stood round the nest without her moving. Indeed, she did not so much as open an eye, and this is a habit which greatly helps in rendering this grey bird inconspicuous. The keeper said the young had been hatched on the 20th (two days previously), and moved since about three feet. Although I have never known young Nightjars to be found which were not moved subsequently—once, at least—I never met a gamekeeper who knew how it was done. It is certain that these youngsters very early acquire the power of walking, or rather crawling, unaided, but when only two days old it must surely be in the parent's mouth that they are carried. Mr. F. Norgate, a most observant naturalist, told me he believed he had seen it done, but the bird was past him so quick that it was difficult to be certain, but it undoubtedly had something in its mouth.

Returning now to the subject of migration, an arrival of the migratory *Passeres* was noted on the coast of Norfolk by Mr. E. C. Arnold and his brother on Sept. 13th (S. to S.W., fine), but, save for that, there was little migration observed during 1904. Nor am I informed of any marked arrivals or departures of *Corvidæ*; indeed, my correspondent, Mr. B. Dye, remarks of the Yarmouth district that Rooks were less numerous than for many seasons, and that is a district where a good many are nearly always observed.

Each year practically the same number of birds of passage come and go, but it depends on the wind whether they are noticed or not. If no adverse winds delay them they pass on rapidly, for the most part at night, and no one is any the wiser.

In 1904 we had a great wave; in 1905 little or nothing was seen. I often think if the rarities which are identified on the projecting coast of Norfolk by day could be exchanged for those which pass unidentified by night, what a far greater number of them there would be.

October was a very fine month, and therefore blank. November was principally noticeable for the presence of a Flamingo, which may have escaped, but it neither belonged to the Duke of Bedford nor to Mr. W. H. St. Quintin, who keep these birds in their parks. Lapland Buntings were also more in evidence than they have been since 1892, though, indeed, they are annual visitors.

December set in rainy and unsettled. On the night of the 16th we had 16° of frost, followed by a thick fog which lasted for several days. Early one morning an incident happened which is not unusual on misty nights. A great flock of Starlings which had lost their way settled on the roof and lantern-gallery of Happisburgh lighthouse, where, bewildered by its light shining through the mist, they stayed from one a.m. until daybreak (J. Gentry). It was the largest number of Starlings the principal had ever seen during an experience of over thirty years. On another night he secured a few Wigeon and Plover.

Mr. A. Patterson sends another anecdote of the same nature, which can be related here. One drizzling night in October (D. U.) four Woodcocks struck the lantern of the 'Leman and Ower' light-vessel, and, falling on deck, were all secured. On four other occasions single Woodcocks had struck, always making for the white and not the red light. Mr. Patterson also writes of a Dabchick which came on board a fishing-boat some forty miles from land on Oct. 12th, and, striking against the cook's "galley," was forthwith taken; and of a Buzzard which visited one of the light-vessels.

The birds deserving to be called rarities during 1904 have been:—January: Sea-Eagle, two Red-crested Ducks (Suffolk), Citril Finch. February: Black Redstart. April: Serin Finch. May: Two Avocets, seven Spoonbills. September: Pectoral Sandpiper (Suffolk), Aquatic Warbler, Ortolan, Red-breasted Flycatcher. October: Four Lapland Buntings. November: Five Lapland Buntings, Flamingo (?).

A good many occurrences of birds are often notified to the

recorder of these annual Notes by friends without exact dates; the month if not the week of capture is always remembered by the observer, but not the day. It is proposed to enter such occurrences as nearly as they can be allocated with the letters d. u. (=date uncertain) after them, to show that the exact date is not known. As before, a dagger (†) signifies that the bird has been seen by the recorder, and that he is responsible for its identification.

The direction and force of the wind have been generally taken from the Daily Weather Report for Yarmouth, issued at the Meteorological Office.

JANUARY.

1st.—A flock of about twenty-five Golden Plover† at Swains-thorpe, a favourite resort of this species.

2nd.—Sharp frost. A young Sea-Eagle seen at Hoveton by Mr. F. H. Barclay, as usual, mobbed by Rooks when it rose from the field in which it was at first seen standing.

13th.—A Merlin, caught at Keswick by a birdcatcher, having, I suppose, swooped at the "call-bird."

14th.—Some Pochards and Tufted Ducks at Hempstead ponds (Barclay).

15th.—W., 5. Seven Goosanders at Hickling (M. C. Bird), and shortly afterwards a female shot on Breydon (B. Dye).

16th.—W.N.W., 5, at Yarmouth. Male and female Red-crested Pochards,† in perfect plumage, and perhaps already paired, as there were no others, shot at Thorpe Mere by the sea, in Suffolk, by Mr. F. G. Garrett, and sent to Mr. Gunn, of Norwich, for preservation (recorded, Bulletin B.O.C. xiv. p. 62). As already remarked, this southern Duck has generally chosen the winter in which to visit the east of England, contrary to what one might expect. A few are stated to breed in Central Germany, from whence perhaps these birds come, or from further east; they seem to have made the shores of England with a high wind from the west.

20th.—A Sea-Eagle seen at Ipswich, mobbed by a Rook ("Field"), probably the same seen in Norfolk on the 2nd.

21st.—W., 4. A cock Black Redstart, taken on Yarmouth denes by a birdcatcher, and brought to Mr. W. Lowne, who successfully caged and moulted the bird, and with it subsequently

won first prize at the Crystal Palace, first at Norwich, and first at Yarmouth Bird Shows.

27th.—S.S.W., 6.

28th.—S.S.W., 5, at Yarmouth.

29th.—S.W., 3. A Citril Finch, † *Chrysomitris citrinella* (L.)—an adult female in good feather—taken with an ordinary call-bird by J. Quinton, one of our Yarmouth birdcatchers, who generally plies his trade on the denes. I am indebted to Mr. E. C. Saunders for a knowledge of this rarity, which is now in his possession. It is just possible it may be an escaped one, but it must be remembered how many rare migrants follow the eastern coast-line. The Citril Finch is stated to be fairly common in Baden, which is only three hundred miles away, a distance a bird may easily cover in a strong gale of wind such as blew on the 27th from S.S.W.: Gätke quotes two occurrences for Heligoland. An Eagle seen at Hickling (Bird), perhaps the same one seen on Jan. 2nd and 20th.

FEBRUARY.

21st.—Mr. W. G. Clarke saw a Black Redstart on the Dereham Road near Norwich.

23rd.—Some Wild Swans, Wild Geese, and Little Auks announced on the coast (H. Pashley).

26th.—Bittern on the Broads (Bird).

MARCH.

10th.—Wheatear near Thetford (W. G. Clarke).

12th.—Wryneck near Thetford (Clarke).

14th.—Norfolk Plover near Thetford (Clarke).

24th.—Hoopoe seen at North Walsham (Bird).

31st.—Three Yellow Wagtails at Horsey (Bird). Sixteen Dotterel seen at Feltwell by Mr. Newcome (D. u.).

APRIL.

2nd.—Chiffchaff near Thetford.

18th.—E.S.E., 3. The first Spoonbill appeared on Breydon (tidal) Broad a week later than the first one in 1903, and was bullied by Gulls as if it had been their worst enemy (Patterson). It was seen off and on by Mr. Jary, the Society's watcher, until April 28th, when it was joined by another. Subsequent notes

on Breydon Spoonbills are all supplied by Jary, who has used the utmost vigilance in keeping off the fraternity of gunners.

23rd.—Dunlins assuming black breasts (Patterson).

25th.—Grasshopper-Warbler heard (E. C. Saunders).

27th.—S., 3, at Yarmouth.

28th.—W.N.W., 4. The Spoonbill on Breydon joined by another. A cock Serin Finch netted at or near Yarmouth, and subsequently kept alive by Mr. Lowne for some weeks. This is the fourth, if not the sixth, Serin which has been taken there by birdcatchers, and it seems as if a few annually followed our coast-line; yet none have been identified at Blakeney, a place which seems equally suitable with Yarmouth denes. Another migrant on this day, of a kindred sort, was a hen Black Redstart, which attracted attention by perching on Cley coast-guard-house (Pashley), where I remember a pair on a previous occasion.

MAY.

1st.—W., veering to S.E. Two Spoonbills again on Breydon. Several Grasshopper-Warblers "trilling" round Calthorpe Broad (D. U.) (R. Gurney), and a Ring-Ouzel seen at Twyford (Hamond).

4th.—Shown a Woodcock's nest with two eggs,† taken by Ranworth Broad on marshy ground (D. U.). As usual, the bird sat close, so that the gamekeeper almost put his foot upon her, and in rising either she or he broke one of the eggs.

5th.—Cormorant at Hoveton (Davies).

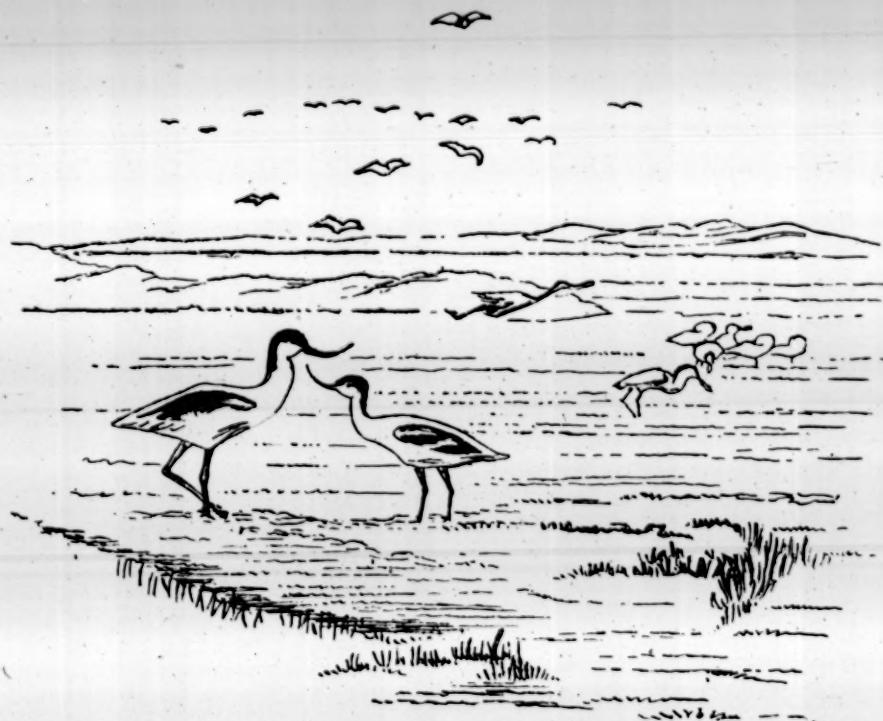
8th.—S.E., 3. The two Spoonbills on Breydon are evidently the same which have been there off and on since April 28th.

9th.—W., 4, fine. An Avocet and three Spoonbills seen by George Jary, the watcher, on Breydon muds. Only one of these Spoonbills is a fresh comer.

10th.—N.W., 1, fine. Lots of birds on Breydon muds.

11th.—N.E., 2, at Yarmouth in the afternoon; N.N.W., 3, in the morning; N.W., 3, the evening before. In response to a telegram from the watcher on Breydon Broad, my daughter and I went over, and had the good fortune to see two Avocets and seven Spoonbills, which, though not very near together, were all in view at the same time, forming, with a few Whimbrel and Herons, a picture worthy the brush of Mr. Southgate, who has done some excellent pictures of Norfolk bird-life. The Avocets

allowed us to approach within about fifty yards, and we watched them preening themselves and afterwards feeding—lovely birds—standing while they did their toilet in some three inches of water. One of them, Mr. Jary said, had only arrived a few hours, which accounted for such elaborate ablutions; the other he had known to be on the Broad two days, having seen it at different times since the afternoon of the 9th. Now and then the new arrival stretched a wing high in air, or turned his head in very graceful way, while the dorsal portion of the plumage was being dressed.



After a while they left the water in which they had been standing, and began to feed on a sand-bank, and once or twice I could catch the sweeping action of the beak from side to side, which has been compared to a man mowing. Jary said he had seen the first Avocet take worms to the water's edge and apparently wash them, but this they did not do while we were there. The Spoonbills we did not get very near to, for when the punt was still four hundred yards away a train put them up. Jary said that one bird had a very fine crest, and was larger than the rest. He was sure that four of them had only arrived that morning.

on the muds, and one the day before—of course immediately joining the two already there ; these latter were believed to have been on Breydon Broad since April 28th. The whole party, when on the wing together, produced a very striking effect, their conspicuous whiteness visible at least a mile away, reminding one of Swans or Gannets against a leaden sky.

11th.—Mr. H. Bunn received a male Hobby, which had been caught on a fishing-smack in the North Sea (D. U.), and brought into Lowestoft Harbour.

12th.—Two Spoonbills and two Garganey Teal at Hickling Broad (Nudd). The Spoonbills probably belonged to the flock on Breydon, which is only nine miles away from Hickling, but evidently less suited to its habits.

13th.—The two Avocets and the seven Spoonbills again upon Breydon mud-flats (Jary), but they do not seem to have been there on the 12th ; possibly they were at Blakeney, where, I am assured by a well-known gunner, five were seen one day (D. U.) during this month.

14th.—The two Avocets and seven Spoonbills still on Breydon muds.

15th.—E., fine. The two Avocets and two of the Spoonbills remain on Breydon, but the other five are announced to have left.

16th.—No wind at all. The Avocets are believed by the watcher to have left also.

17th.—W., 4, fine. The pair of Spoonbills on Breydon joined by two more.

23rd.—W., 1. Another Spoonbill has come to Breydon ; stated to be a fine old bird with a good crest.

27th.—The old Spoonbill with the crest, after two or three days' absence, is on Breydon again.

JUNE.

6th.—N.E., 4. There are now four Spoonbills on Breydon Broad, three of them, it is thought, fresh ones. These were the only Spoonbills seen by Jary during June, nor was another detected until July 8th.

17th.—A Spoonbill visited Hickling Broad yesterday and to-day (Bird).

JULY.

4th.—Two Hawfinches at Cromer (Barclay).

6th.—Spoonbill seen at Hickling Broad (Bird).

8th.—E. After an interval of thirty-two days the watcher was able to announce another Spoonbill, apparently a fresh one, on Breydon muds, where it was generally to be seen at low tide until the 10th, when the wind was S.E., and after that it was seen no more, nor were any others seen. Making a fair allowance for the same birds being observed several times over, it is probable that only thirteen individual Spoonbills visited Norfolk during 1904—a nice quantity, but still less than were seen on a single day in 1894.

15th.—A pair of Green Sandpipers at Southacre decoy (E. T. Daubeny). Others are reported to have summered at Kimberley (Bird).

AUGUST.

1st.—Mr. Bird was able to notify a Jack-Snipe, on the authority of Nudd, who is too experienced a keeper to have made a mistake—an uncommonly early arrival. On the same authority, a few days earlier, he notes some Ruffs and Garganey Teal, and a Grasshopper-Warbler's nest with eggs in the Broad district.

9th.—W.N.W., 3. A compact flock of about sixty Whimbrel came in from the sea at Yarmouth; on reaching Breydon Broad they were seen by Mr. Patterson to open out like a fan, but presently recovered their formation and passed on.

10th.—Mr. E. C. Saunders saw a Wood-Sandpiper near Yarmouth.

24th.—Two Ruffs offered in Yarmouth market (B. Dye).

SEPTEMBER.

1st.—N.W. Dunlin, as usual, abundant on the north coast of the county, but Knots later in arriving than last year. The following shore birds were identified to-day by self and friends: Dunlin, two hundred to three hundred; Knot, one; Little Stint, two; Sandpiper, one; Pigmy Curlew, four; Greenshank, two; Redshank, eight; Turnstone, three; Ringed Plover, several; Curlew, one; Oystercatcher, one; Sheld-Duck, two; besides a nice show of Common and Lesser Terns, thanks to protection.

Mr. E. C. Arnold followed a strange Lark with much white in the tail, and a white streak in each wing, suggestive of *Alauda sibirica*. He also saw twelve Pied Flycatchers and one Wryneck, and a Richardson's Skua and some Razorbills.

2nd.—W.N.W., 3. A Pectoral Sandpiper shot at Southwold ('Field'). By this time some very young Razorbills and half-grown Guillemots had, as usual, found their way from Flamborough Head to Norfolk shores, where their tameness is often a source of danger to them. Also some very young Little Gulls perhaps come from some Danish breeding-place—and Richardson's Skuas, another regular visitant, and a few Gannets and Sandwich Terns showed themselves.

5th.—S.E. A further influx of Pied Flycatchers (Arnold).

6th.—Woodcock at Lowestoft (H. Bunn); the earliest. Wind yesterday evening S.E., 6.

11th.—A Land-Rail,† picked up at Northrepps by a little girl; when found, a Rat was biting its neck, from which much blood flowed; there was also a slight abrasion on its head, as if from collision with some tree or wall. The little girl took off the Land-Rail to bury it, but, discovering that it was only shamming death, brought it to me instead. The next morning it did not seem much the worse, and was soon running about the lawn as brisk as ever, but concealed itself when watched. The following day it was half a mile away, and was caught trying to force its way through a wire-gate, which by using its wings it might easily have got over.

13th.—S. to S.W., fine, 4. The beach reported by Mr. E. C. Arnold to be alive in certain places with numbers of small birds of passage, which had come in the night, including many Common Linnets. Also many Redstarts, Sky-Larks, Pipits (one of them thought by Mr. Arnold to be a Richard's Pipit), &c., one Snow-Bunting, one Reed-Bunting, one Ortolan Bunting, but only a single Pied Flycatcher. The Arctic Tern and Scaup-Duck were also identified, and about one hundred Golden Plover.

15th.—N.E., 3. Mr. Lowne took a Pied Flycatcher in a net-trap on the "dunes," and, lending it to a birdcatcher, the latter took another with it; others were also seen. On the same day the 'Field' reported an Aquatic Warbler† in Norfolk, and Mr. Pashley had information of a few Bluethroats.

18th.—Lapland Bunting, already recorded by Mr. Aplin (Zool. 1904, p. 428).

21st.—E.N.E., 6. Several Wheatears and Mistle-Thrushes on Cromer hills, where few but migrants halt; wind high.

22nd.—E.N.E., 5. Swifts still on the coast (T. E. Gunn), and one Red-breasted Flycatcher (Richards), as well as some more Bluethroats and a Grasshopper-Warbler (Gunn).

24th.—Lapland Bunting, already recorded, as have been other notes from Hunstanton by Mr. Tuck.

OCTOBER.

4th.—A Norfolk Plover,† shot at Blakeney (C. Gurney), an unusual bird there, though I have seen plenty of them at Kelling Heath, whence it had probably come.

10th.—Two Velvet Scoters sent to Mr. Gunn from Wells.

12th.—Smew at Catfield (Bird).

21st.—Black Redstart (female) caught or netted on Yarmouth denes (Lowne).

NOVEMBER.

4th.—A Pomatorhine Skua,† well advanced in plumage, the only one reported this year, was caught off the shore, or from a boat, at Hunstanton, on a hook baited with a piece of candle, which the bird must have been hungry to swallow (Roberts).

5th.—Nine Wild Swans on Foulmere (Clarke), and shortly afterwards (D. U.) three seen at Stratton Strawless. About this time, or later, a Flamingo was seen at Riddlesworth by Prince Duleep Singh and other gentlemen, probably the same which was shot on Nov. 24th at the mouth of the Medway. It may have been a liberated one, but I learn from the Duke of Bedford that it is more than a year since one escaped from Woburn.

21st.—A falling glass. A large flock of Wild Geese—fore-runners of snow—passed over Norwich city very early in the morning—about 1 a.m. (W. G. Clarke).

22nd.—Snow in all parts of the county, in consequence of which a flock of Corn-Buntings sought the softer ground in the vicinity of the sea (Patterson), Wild Swans, including a Bewick's Swan, were heard of near Salthouse (C. Gurney), and a few Little Auks and Wild Geese on the coast (Pashley and Saunders) (D. U.). Inland, Greater Spotted Woodpeckers were seen at

Caister and Whitlingham about this time, a Bittern at Hickling, and a Black-throated Diver at Rollesby (Cole).

26th.—I learn from Mr. B. Dye that quantities of small birds have been brought into Yarmouth market, mostly Sky-Larks, Starlings, and Thrushes. Nine Lapland Buntings also were taken during November by one birdcatcher, but Siskins have been scarce (Dye).

28th.—A Little Auk, captured at Cantley, had inside it fourteen little fish resembling the fry of Roach (Roberts), which it may have caught in one of the dykes leading to the River Yare. These little fish were from one to three inches in length, and one or two of them, judging from their perfect condition, had been only just swallowed. About the same time (D. U.) a Little Auk was caught on some ice at Acle.

DECEMBER.

6th.—A Black Redstart (female) caught in a Yarmouth fish-house, where it must have found something edible to attract it, which Mr. Lowne has, or had until recently, alive, making the fifth of this species during the year.

14th.—A fine cock Bearded Titmouse, killed by a boy on the river at Norwich, near the Dolphin baths (Gunn), where there are some reeds, which I never heard of as attracting one of this species before. About the same time (D. U.) some were seen at Horning, and three or four on the coast (Gunn), but there is no reason for thinking that these latter had crossed the sea.

17th.—Two Lapland Buntings seen by Mr. C. Gurney at Cley, where others had been seen a short time previously, and one shot (D. U.).

29th.—Stone-Curlew near Bury (Tuck).

VARIETIES OF PLUMAGE.

January.—A cock Redstart with some white on its wings brought to Mr. Lowne, who kept it alive.

February.—On the 1st Mr. Patterson forwarded a pale variety of the Mallard,† which he had detected with a Duck in Yarmouth market. During the month (D. U.) a cream-coloured Stock-Dove was obtained at Hockham by Mr. Partridge.

March.—A white Rook at Horning (Bird).

April.—On the 28th a singular Redstart,† with a pale back and sandy-coloured wings, appeared near my house, and within a mile of where I met a similar variety—possibly the same bird—in 1902.

June.—A white Starling at Bacton (Bird).

July.—A cream-coloured Starling at Kilverstone (W. G. Clarke); chestnut Blackbird at Thetford (Clarke).

August.—During this month (D. U.) an isabelline or cream-coloured Cormorant was seen by Mr. Cresswell perched on a beacon at the mouth of the Wash, with three or four others of the ordinary type. A white Redpoll with a yellowish cap in a cage at Yarmouth (Patterson), but when or where captured is not known; possibly the same bird that was exhibited at Norwich Bird Show in 1893.

September.—A beautifully pied Chaffinch, taken alive at Horstead (Sir E. Birkbeck), and a white Swallow seen at Burgh. On the 21st a variety of the Partridge† was sent to the Museum from Cantley, remarkable for the mealy tint of its back and chest, and its almost black lores and very dark ear-coverts. It was only a young female; if it had been adult these colours would have been more pronounced, but it would not have become as melanistic as the variety shot in November, 1893. On the 2nd, I am informed by Mr. Arnold, a very dark Stonechat, amounting to partial melanism, but showing white on the wing and neck, was shot, and it was subsequently submitted to Mr. Howard Saunders.

October.—A fawn Linnet at Cley (C. Gurney); a slate-coloured Robin near Bury; a spotted Starling exhibited in Norwich.

November.—On the 5th a very good *Perdix montana*,† the Spangled Partridge, was shot near Dereham (Gunn). This variety must not be confused with the French *Perdrix roquette*. A Woodcock with four white primaries in one wing,† and one and some coverts in the other, shot at Foulsham (Southwell).

December.—About the 24th a Woodcock with the anterior half of one wing† white was shot at Horsford, perhaps from the same nest as the other. Mr. Cole had a cream-coloured Redwing from Fornsett on the 31st, and Mr. Lowne a pied Sky-Lark about the

same date ; also a white-tailed Starling was seen several times on Cromer hills (Birch).

POCHARD DUCK.

A drake Pochard, which had lived with other pinioned water-fowl for six or seven years, died on May 23rd. It had become so tame that it would readily take bread—which it seemed to prefer to barley—from the hand, literally fighting for it when it was hungry, if withheld. Its power of sight was extraordinarily quick at long distance, but much less so in the case of near objects. On the ice it was the most helpless of birds, owing to the backward position of its legs, sprawling about at every step it took ; while Mallard, Teal, Wigeon, Pintail, and Shoveler could walk with ease. Every summer it underwent a considerable change of plumage ; the black breast became a rusty colour, the head grew browner, and the grey vermiculations on the back duller. But it cannot be said that this species ever assumes the plumage of the female, or goes into an eclipse as the Teal and Mallard and many others do.

The "Pagets' Pochard," a hybrid between the Nyroca Duck and Common Pochard, taken in 1898, and occasionally mentioned in these pages, is still alive. It is rather shy, and seldom dives. The plumage is at its brightest at the end of January, when the bay colour of the breast is very rich in tone ; in the more dingy plumage of summer its hybrid origin might be easily overlooked.

WINTER NOTES FROM LLEYN.

By O. V. APLIN, F.L.S.

(Concluded from p. 50.)

GOLDEN PLOVER.—Numerous in the fields near the coast about Afon Wen : one flock of a hundred or more on the wing. It is said to be abundant at Aberdaron in severe winters, and at such times hundreds visit Bardsey. None had been seen this mild season.

PEEWIT.—Fairly numerous I saw several good flocks. None seemed paired by the time I left.

RINGED PLOVER.—Some in the harbour, and a good many along the shore in flocks with Dunlins.

TURNSTONE.—Met with once in the harbour, and on several occasions along the shore, singly or several together, flying with Dunlins and Ringed Plover. The note is a loud shrill "ticket ticket ticket," or "ticky ticky tickey." Some seemed to be adult.

OYSTERCATCHER.—Seen about the harbour, and in little flocks along the shore. About Abersoch I saw some about the cliffs, where they looked very pretty on the dark rocks.

REDSHANK.—Always to be seen in the harbour at Pwllheli ; common, noisy, and rather tame.

KNOT.—Two, with some Oystercatchers, on the sands on Feb. 1st.

PURPLE SANDPIPER.—The keeper of the lighthouse on St. Tudwal's Island said there were a great many on the larger island this winter, so tame that they could almost be caught in one's hand.

DUNLIN.—Some about the harbour, and on the 5th and 6th some good flocks on the shore a few miles north of Pwllheli, where good feeding-ground is exposed at low tide. I think that at high water they go over the sand-hills to sit in the fresh marshes.

SANDERLING.—I saw three or four about the stones and sands east of Afon Wen.

BAR-TAILED GODWIT.—The great terraced shingle-bank which begins a little to the east of Pwllheli is stopped abruptly by the low rocky headland of Pen-y-chain. East of this again the coast-line is formed of green-topped low earthy cliffs, full of stones and some bands of rock, all wasting. Near the Afon Dwyfawr this merges into sand with marram-grass, and a point of this runs out between the river-mouth and the sea ; the river itself runs out rapidly through firm banks. The sea along this stretch of coast goes out rather a long way, and exposes a pebble strand, strewn in places with big boulders, and interspersed with bands of sands ; the stones are often thickly covered with bladder-wrack well below high tide, and there is a suspicion of *Zostera marina* in places. West of the mouth of the Afon Wen, and again about the mouth of the Afon Dwyfawr, there is an extensive waste of pebbles and boulders. All this makes a very favourable haunt for certain kinds of waders and some other birds. Here, on Feb. 2nd (a bright sunny day), as I crept up to the edge of the low cliff and looked over, I saw a very pretty sight. Among the boulders a lot of birds were sitting about. A dozen or so of Wigeon, some Curlews, and Oystercatchers I made out before they took the alarm, but my attention was riveted on quite a score of Godwits ; some were quite grey-looking on the back, others browner.

CURLEW.—Numerous ; good big herds, up to fifty or sixty birds, seen on grass and ploughed fields, and grassy headlands ; and a still bigger one once on the sands, and some about the pebble shore, &c. By the 11th they were getting the sweet tremulous trill of whistles to some extent ; other cries were "kly-yike" and "coor-leee."

WOODCOCK.—None seen this month about the mountains at Aberdaron, where in frosty weather at this time of the year one gun has killed five in a day.

SNIPE.—I had no opportunity of beating marshes, where I am told the Snipe-shooting is good sometimes. But I flushed a Snipe on the 11th from dwarf gorse and stunted heather on the top of Llanbedrog headland, the landward end ; a very dry spot.

HERON.—Occasionally seen.

MOORHEN.—Very common. I saw perhaps a dozen in a day.

COOT.—Numerous on the Afon Wen meres, where I counted forty-one; twenty or thirty on Llyn Glâs fryn, and some seen on the Afon Rhyd Hir, and the lower reaches of the Afon Erch.

WILD DUCK.—Seen in some numbers on various waters. One on a little open pond near Mynydd Annelog, said to be a great place for them in frosty weather. Wild Ducks, with Wigeon and Teal, are fond of passing the day on the larger St. Tudwal's Island, where they are seldom disturbed.

WIGEON.—On Feb. 11th a lot of Ducks—from one hundred to one hundred and fifty—were scattered over the shallows in Llanbedrog Bay, under the headland. It was dead low water, and the sea had gone a long way out, exposing pebbles and sand-banks and low rocks. A great number of birds were collected here, including Gulls and various Waders. All the Ducks that I could make sure of with the glass were Wigeon, and the well-known "whew-oo" often came up to me quite loud on the still air. Some were evidently paired. I have already mentioned some near Afon Wen, which I put up again from among boulders further along the coast. I could make out some of these pretty Ducks, so active on their feet, on the lower part of the Afon Erch.

TEAL.—Seen on the Erch—a good bunch on one occasion. Known as a winter visitor to Aberdaron.

POCHARD.—One good drake and one duck on Afon Wen mere.

TUFTED DUCK.—One adult drake and a duck there; also two or three dull-coloured birds, probably of this species, but I could not get near enough to be sure of them.

GOLDEN-EYE.—One, a female from its size, there; and one in immature dress, diving with great energy on Llyn Glâs fryn.

SCOTER.—A Scoter of some kind off Pwllheli on the 3rd, and eight under Llanbedrog headland on the 11th. Described to me as a winter visitor to the coast at Aberdaron.

GREAT NORTHERN DIVER.—Mr. Caton Haigh writes word that he saw one well up in Pwllheli Harbour about the middle of March, 1903, and another under Llanbedrog Head.

RED-THROATED DIVER.—I saw an adult in winter dress feeding

at the mouth of the harbour on several days ; the dives lasted about thirty seconds, but more if the bird was alarmed and moving off.

LITTLE GREBE.—Seen on the Afon Erch, and two on Afon Wen mere.

RAZORBILL.—On the morning of the 5th, after a heavy raking sea all night, the shore was strewn with seaweed, a vast lot being thrown up, including a lot of thin grassy stuff. The people were out getting driftwood, and I found a two-year-old Razorbill, quite fresh, but little more than skin and bones ; the inside of the mouth was buff or yellow-buff. The dried remains of another were flung on to the road by the gale.

GUILLEMOT.—Four in winter dress off the harbour mouth on the 1st ; cold N.N.W. wind, some snow, and stormy. I have never in this district heard the Guillemot called "Eligoog" (*Heligôg*), a name possibly confined to South Wales. "Salt-water Cuckoo" seems a most appropriate name ; descriptive of the habits of a bird which, by the regularity of its appearance in vast numbers at sea-washed rocks in the spring, so forces itself upon the notice of those who dwell in the neighbourhood of great breeding-haunts of sea-fowl. These Auks appeal to the eye as harbingers of spring, just as the Cuckoo appeals to the ear in the same manner. For the name has probably never been the exclusive property of the Guillemot, but was shared by the Puffin and the Razorbill. Ray, treating of the birds of Caldey Island in 1662, says, in one of his Itineraries, that Razorbills are called "Elegugs," and writes :— "This name Elegug some attribute to the Puffin, and some to the Guillemot ; indeed, they know not themselves what they mean by this name." They doubtless meant all three species, all being eminently migratory, although we know so little about the extent of their migration, whether it extends far or not. Perhaps they are so spread and scattered over the seas in winter that there are never many together. On the other hand, numbers together are sometimes thrown on the shores dead after stormy weather. Yet the fact remains that those who go down to the sea in ships do not seem to meet with Auks in the vast numbers we should expect them to be after a successful breeding season. By the end of winter their ranks are evidently thinned ; otherwise the breeding stations would become hopelessly congested.

CORMORANT.—Much less commonly seen than in summer. One on Afon Wen mere; a few seen along the coast (five flying together once), and two or three flying over the sea below the Bird Rock.

SHAG.—Seldom seen; only on three occasions. Two or three flying over the sea below the Bird Rock. One in the harbour threw a flat fish, nearly as big as an afternoon tea-plate, into the air; too big, indeed, for this voracious bird, which rose and flew away, in disgust, I suppose.

BLACK-HEADED GULL.—Very numerous in the harbour, some of the grass-marshes, and the arable land where ploughing was going on; indeed, they were seen commonly on most of the low ground except the seashore proper, where they were met with much less frequently. The "pwll," or harbour, was generally full of them, their harsh Crow-like "kare," "kah" or "kahr" being constantly heard, and contrasting with the squeaky "skeeee" of the Common Gull. There was usually a flock about the grass-fields, and the edges of the fresh-water pools inside the dam at Pwllheli, and I could generally see from my bedroom window a little flock about the cabbage-gardens. Gulls fly all over the far end of Lleyn—and, indeed, most other parts of it—quite freely. The Herring-Gull and this species are the commonest inland. By far the larger number of the birds in the "pwll" were adult, but there were a few quite young birds about. Some had perceptibly dark hoods by Jan. 31st, and I saw one with it nearly complete on that date, and others a few days later.

COMMON GULL.—Fairly common about the harbour, and a few offshore and inland; and most of the birds in a great gathering of Gulls on the sands east of Abersoch on the 3rd appeared to be of this species.

HERRING-GULL.—The adults of this species appear to frequent their summer quarters at this season more than other Gulls. On the 3rd I noticed them sitting about the cliffs, but of course in smaller numbers than in summer, and there were none actually on the Bird Rock. They feed inland a great deal. The young birds were seen at Pwllheli and along the flat shore much more commonly than the adults. But I was surprised at the small proportion of immature Gulls of any species which I saw, and it was evident that the bulk of the young birds had gone else-

where. This is very probable, as nothing is more common in summer than to see large numbers of immature Herring-Gulls frequenting localities where this species does not breed. The dark rocks of the Lleyn coast set off the peculiarly delicate colours of this bird to perfection.

LESSER BLACK-BACKED GULL.—I saw one at the Bird Rock, and I believe one other (but too far off to be sure of, though it looked too small for its relative) near Abersoch. When we consider that this bird breeds not far away, it is surprising how rare it is in Lleyn. Ray and Willughby, however, saw it at Pwllheli on May 30th, 1662. The former writes:—"We saw another *Larus*, more black on the back, and that had yellow legs" ('Itineraries'). An early mention of this bird as British.

GREAT BLACK-BACKED GULL.—There were adult birds (two on one occasion) in the harbour on three days, and I saw another at Llanbedrog.

KITTIWAKE.—Not at all numerous, but a few to be seen off the shore, and there were a few flying over the sea about the Bird Rock. This is a true marine Gull—a bird of the sea and the rocks—and not seen in the muddy harbour or on the fields. Almost every one I saw closely was adult. One morning when it was blowing very hard, and there was a fine sea on, two Kittiwakes (young and old) were flying up and down off and outside the great rock called Careg yr Imbril (probably once an island), which stands at the mouth of and shelters the harbour. They were fully exposed to the strong wind which flung the spray on high, while just inside, had they chosen, they could have found shelter.

NOTES AND QUERIES.

AVES.

Nesting Habits of the Wren.—It is a well-known fact that the Common Wren (*Troglodytes parvulus*) builds one or more unlined nests near the one intended for breeding purposes. On June 19th, 1904, I found a nest containing five nearly fledged young birds, near which was one of these unlined or "cock" nests, as they are often called. On the afternoon of June 19th the young had left the nest in which they had been hatched, and on the evening of June 20th I was surprised to find that they had taken up their quarters inside the "cock" nest. They remained in their new abode, where they were fed by their parents, until June 23rd, but after that date only returned to it at night, and forsook it altogether after July 6th. I have never before known a "cock" nest to be used for such a purpose, though the male birds are supposed to use them as roosting-places.—CHAS. H. BENTHAM (Keymer, East Hill Road, Oxted, Surrey).

Hairy Variety of the Moorhen.—About the middle of January a specimen of this curious variety was caught by a Dog quite near Bury St. Edmunds, and taken to Mr. Travis, the birdstuffer, in that town. It is evidently a young bird of last year, warm sandy brown above, greyish white below, with the head and throat almost of the normal colour. The texture of the breast-feathers rather reminded me of the coat of a wire-haired terrier, but Mr. Travis remarked that to him it was suggestive of the plumage of an Emu. The only record of this variety in the current series of this Journal seems to be that by Mr. Forrest (Zool. 1901, p. 108), who has had the unusual opportunity of examining five specimens, and also mentions the Emu by way of comparison.—JULIAN G. TUCK (Tostock Rectory, Bury St. Edmunds).

Ruddy Sheld-drake (*Tadorna casarca*) in Lancashire.—On October 9th, 1892, after a westerly gale and an abnormally high tide which flooded the marshes of the Mersey Estuary, and drowned many cattle and Sheep, a Ruddy Sheld-drake was shot by Mr. James Mercer on some flooded meadows at Ditton, near Widnes. Mr. Mercer, who has

kindly allowed me to examine the bird, says that it was very wild, and that he had some trouble to get within shot of it. As the Ruddy Sheldrake is frequently kept on ornamental waters, suspicion not unnaturally attaches to most of the birds shot in this country. In view, however, of the wariness of the Ditton example, and the fact that it was obtained in 1892—a year memorable for the incursion of this species into Britain and Western Europe—there can be little doubt that it was really a wild bird; and the occurrence is perhaps of sufficient interest to warrant this belated notice.—CHARLES OLDHAM (Knutsford).

Peculiar Nests and Nesting-Sites of the Lapwing (*Vanellus vulgaris*).—*Nest 1.*—One day, when photographing Redshanks' eggs, I came across a very unusual Lapwing's nest, containing three eggs, placed on a slight eminence two or three inches high, situated in very marshy ground, the water reaching up to our ankles for several yards around. The nest was well built of dry grass, with quite a high foundation on the little mound; from its sides extended at intervals several stalks of grass, plaited together, reaching to the ground, and evidently acting as supports to the edge, so as to keep the eggs dry. My friend Mr. John Stares (who was with me) remarked that when in Spain he was struck by the fact that in dry places the Black-winged Stilt made a rude apology for a nest, but in damp situations built a much more solid and elaborate structure. The dried grass composing the Lapwing's nest contrasted strongly in colour with the bright green grass growing around. Some years ago I read that, in the 'Transactions of the North Staffordshire Field Club,' two somewhat similar nests were reported, ten inches high, composed of dry stems of water-plants, none thicker than a goose-quill; but it was not mentioned if they were placed on wet ground.

Nest 2.—A Lapwing's nest in a field of peas, completely concealed by the crop. The eggs (four in number) had been laid, not when the field was bare, but after the peas had grown some height, and formed quite an arch over the nest; this I have never seen before. The hen began to sit, and on the first and subsequent occasions, when I approached, flew direct from the eggs, without any preliminary running, the thick growth around evidently preventing her seeing me till quite close.

Nest 3.—On a few occasions I have found a Lapwing's nest which contained a stone in the centre, the eggs lying around it, not in their normal position, viz. pointed ends turned downwards and inwards, but sideways, the pointed end of one to the broad end of the next. Of

course, a stone is sometimes seen occupying a place among the eggs—in the sand-scooped nest of the Ringed Plover—but I have never read of this in reference to the Lapwings, although it is well known to some farmers. On these occasions the nest is always placed on a stony field. Tricks by mischievous boys placing stones among the eggs cannot be urged when nests are on well-protected lands and carefully watched. I think nests 1 and 2 may have some interest for those studying development in nest-building.—J. E. H. KELSO (Southsea, Hants).

Great Crested Grebes in Richmond Park.—I reported the arrival of the pair of Great Crested Grebes (*Podiceps cristatus*) on the Penn Ponds last year, and am pleased to state that a pair have arrived again this year; and I thought that the following notes made to-day (Feb. 25th) might prove of interest to readers of 'The Zoologist.' At first, through my field-glasses, I could only see one bird, which was in full breeding plumage. This bird (which is probably the male) was treading water, splashing with his wings, and spinning round on his stern like a teetotum. Presently, with neck stretched to its full extent straight in front of him, he lies flat on the water, flaps his wings, and utters a hoarse croak. I see now the cause of his excitement, for coming towards him is the other Grebe, also stretched along the water in the strange position as the first. The two meet breast to breast, and chatter together, and spar with their bills. The second bird is not in breeding plumage, but retains the winter dress, and is probably an immature female. The two then swim in company, and visit the nesting-place of last year. This is, however, now covered with water, save a few stumps of wood and reeds. The male bird dives, bringing up a bunch of weed, which he gives to the other bird. The two play with the weed for a little while, then leave it. What makes the Grebe bring up this weed, for these birds do not feed on it, and it is the stuff their nests are made of? Can the bird have mistaken the time of year, and thinks the nest ought to be commenced? We feel sure the immature bird is not the female of last year, and, if this be so, can this action on the part of the male bird of lifting the weed be to show this young bird how and where to build the nest? The cries of these birds were very loud and quite audible some distance off. Besides making a croak every now and again, they would utter a curious buzzing sound. These birds have arrived very early this year, for I did not notice them on the ponds last year until April 17th, and I saw them reported in a daily paper shortly after that date.—GORDON DALGLIESH (29, Larkfield Road, Richmond, Surrey).

Notes from Barnstaple.—

AVES.

GREENLAND JYR-FALCON (*Hierofalco candicans*).—On March 18th, 1903, an adult male was shot on Lundy Island by Mr. Penington. He then sold it to Mr. Hoyle, of Instow, who stuffed the bird. Nearly twelve months afterwards it was bought for £10 by the curator of the Exeter Museum, where it is at present.

PEREGRINE FALCON (*Falco peregrinus*).—This bird used to breed on the cliffs with the Guillemots, but of late years it has been ruthlessly shot down at every opportunity; consequently the bird seems to have left us, and moved into Somerset. The last I saw was during April, 1903, at Santon.

DIPPER (*Cinclus aquaticus*).—Quite a common species, especially on the River Yeo, where last year I found several nests. One was placed in a peculiar position. It was inside a hollow tree which was three or four feet away from the river. The birds went in and out by means of a hole on the river-side of the tree. But the nest was not built just within the hole, but a considerable way up the trunk. Thus, when the parent birds wished to leave their offsprings, they had first to quit the nest, then to drop down the trunk, and finally out the hole! I have found nests, however, in most unfavourable places, where they must have been noticed by every rustic that came near.

CHIFFCHAFF (*Phylloscopus rufus*).—One of the commonest of our migrant natives. Last year their numbers seemed to have increased. A habit which the Chiffchaff appears to be rapidly developing is that of catching flies on the wing. I have watched them for hours feeding in this way, but when thus engaged their flight is always short, barely a yard from its perch, then back again, like the Kingfisher when fishing.

GOLDCREST (*Regulus cristatus*).—A common bird, usually to be found in the dense fir-plantations, where, if it were not for its shrill "tsik tsik," it might easily be passed over. On May 18th, 1903, I discovered a nest, with eggs, lodged in the middle of a thick ivy-bush which was clinging to a young oak not ten feet high; but it was safely interwoven among the ivy-stems.

LESSER WHITETHROAT (*Sylvia curruca*).—Not so often met with as is the Common Whitethroat; indeed, I think it is even considered rare in North Devon. Yet last year I frequently met with it, and was fortunate enough to find two nests—one on May 17th, and the other a few days later, both with fresh eggs in them.

STARLING (*Sturnus vulgaris*).—Always plentiful, especially during winter, when large congregations move about. It has been said that

these immense flocks drive away the song-birds, but, as far as I can tell, this is not the case here, for Thrushes and Blackbirds seem to be almost on the increase. On several occasions last year I saw an albino and also a black and white one. With regard to albinos, on Jan. 25th, 1904, I observed a white Pheasant at Tawstock, and this year one was killed at Tapely Park, Instow. During the early part of this January a white Thrush was shot at Chittlehampton, and a black and white Crow seen at Barnstaple. Starlings must have several broods every year; there were still unfledged young in a nest as late as Oct. 22nd last year. They are very fond of a bath, and I once saw seventy-five all bathing together in the Taw.

RAVEN (*Corvus corax*).—This species still breeds with us on the coasts, the most favoured localities being Baggy Point, Ilfracombe, and Combemartin. At Baggy Point the nest has grown to a large size, and will increase in size, I imagine, until the birds are shot or driven away. They breed during the end of February.

KINGFISHER (*Alcedo ispida*).—A very common bird on the Taw during the autumn, but they breed here sparingly. A considerable influx of visitors takes place during October, when they can often be seen darting under the Long Bridge, or sitting on a boat moored up near the South Walk.

WATER-RAIL (*Rallus aquaticus*).—Not an uncommon bird, but leaving us to breed. Notwithstanding their shyness, I know of one pair which regularly return to a reedy ditch by the side of a railway, and I have seen them cross the rails just after a locomotive has whirled past! I notice they prefer feeding among the reeds on the borders of the pond, rather than on the pond itself. Here of an evening they may be seen darting their slender bills into the mud continually, evidently enjoying a good meal.

RINGED PLOVER (*Egialitis hiaticola*).—The commonest of the shore birds. It breeds near the Braunton Lighthouse, on the beaches cast up against the sand-dunes. Sometimes I have found the nests surrounded by a ring of broken cockle and other shells. These nests are very pretty indeed, although I have not succeeded in discovering the reason why they are so decorated. The fishermen tell me that they sometimes find addled eggs floating on the water.

GREY PHALAROPE (*Phalaropus fulicarius*).—On Jan. 15th and 16th this year, during a strong easterly gale, I saw several of this species on the mud-flats near Barnstaple. The Ringed Plovers were politely showing them round! Thus I found them very difficult to approach, but on one occasion I got within thirty-five feet of them. They kept very close to the water's edge; therefore it was not easy to spot them,

as the colour of their backs harmonised with the colour of the water, which is saying a great deal for the colour of the water.

SANDERLING (*Calidris arenaria*).—A small flock is sometimes seen on the mud-flats during the autumn. A specimen has been reported to have been found dead in October last by a waterman while attending his lines. It had been killed in a curious way. The bird pecked at a Cockle which was sunning itself, whereupon the Cockle shut up its shell on the bird's bill. The Sanderling, unable to rid itself of its captor, died, and the Cockle too ! The bird has been sent to a museum.

CURLEW (*Numenius arquata*).—A very common bird, breeding on the moors. During the autumn it is very tame. I suppose these tame birds must be the inexperienced young ones which are on their first migratory journey. They usually feed at the edge of the water, but sometimes they take to wading deep or even swimming. When they do this they procure a large amount of food, thus arousing the jealous nature of the Gull. The Gulls nudge them, as it were, and hover over them until they drop the tempting morsels, which their foes greedily devour. I have often seen Gulls flying after Ringed Plover in a most absurd way, but not for any food that they might drop, only to punish them for some impertinent offence !

HERON (*Ardea cinerea*).—To be seen singly on the river throughout the year, but just about the beginning of January quite a little flock collect and feed on the mud-flats near Fremington. Then during March they breed in a large fir-plantation, not a great distance from the Fremington Railway Station.

SHED-DUCK (*Tadorna cornuta*).—Common near the estuary of the Taw. It breeds on the Braunton Burrows. The nest is very hard to find, as the bird darts into the hole like an arrow at a terrific speed. Last spring a friend of mine picked up two addled eggs out in the open down on these burrows. They were at about one hundred yards' distance from each other. In the spring the burrows are dotted with small lakes, which as the year advances dry up, leaving damp hollows. It was in one of these hollows that the eggs were found. Possibly they were laid in the water.

SHOVELER (*Spatula clypeata*).—A pair remained to breed last year at Braunton, on one of the Duck-ponds near the lighthouse. By April 26th the eggs were hard-sat, and the chicks came out a few days later, I believe.

PISCES.

TORPEDO ELECTRIC RAY (*Torpedo hebetans*).—An extraordinary catch was made by a Barnstaple fisherman during the early part of May last year. It proved to be a Torpedo Electric Ray, or Numb-fish. It was

fortunate it was dead when found, or the unexpected catch might have had an unpleasant consequence for the finder. It was probably stranded by the morning tide, and died during the day before discovery. It weighed 56 lb., being about 44 in. in length, and 28 in. in width, although measurement was somewhat difficult owing to the shrinkage of the surface of the large round disc, of which the fish principally consists. The fish was paraded round the town.—JOHN CUMMINGS (14, Cross Street, Barnstaple).

The Animal or Animals generally referred to as the "Sea-Serpent."—I forward a cutting from 'The Age' newspaper, relating to the "Sea-Serpent."* As this creature is of world-wide interest, I thought perchance that you would like the subject-matter for 'The Zoologist.' I had intended forwarding you the "note" direct, but, as the captain asked for an early identification, the matter had to be dealt with locally, and necessitated my sitting down and writing the letter offhand; nevertheless it is correct, since I have made this matter a study for some time past.—ARTHUR H. E. MATTINGLEY (Hon. Secretary, Australasian Ornithologists' Union), &c.

"A 'Sea-Serpent' has been reported in 'The Age' of to-day to have been killed, and that enlightenment on the subject was desired. Only quite recently American and French scientists agreed that its existence is no mere myth; therefore it will be interesting to mention what has been recorded about this animal and its existence in Queensland (Australia) waters, since its description to a great extent agrees with the American and French official recognition of the *Megophias megophias*, the classical name bestowed on this presumed species by scientists in the United States Government service. Prof. E. G. Racovitzta has collected proofs of the 'Sea-Serpent's' existence, and its abundance in the Bay of Along, Tonkin. The foreign official recognition, however, is somewhat belated, since Saville Kent, who visited Australia some years ago, published a description which was given to him by Miss Lovell, a school-teacher, of Sandy Island, Queensland. He then named the reptile *Chelosauria lovelli*, and to an Australian belongs the credit of discovering the monster. The latest account of the 'Sea-Serpent' was given a few months back by the officers and crew of the French warship 'Décidée,' on the Indo-Chinese station.

* This referred to the creature struck by the 'Armadale Castle' on her voyage to South Africa.

They saw the creature in the Bay of Along, near Haiphong. The commander reported to the admiral 'that as he was standing on the bridge his attention was directed to a round dark mass in the water, about three hundred yards to port. Soon it rose out of the water, and by the undulatory movement he saw an enormous monster, shaped like a flat-bodied serpent, of about 100 ft. in length. It appeared to have a soft black skin, covered with marbled spots, and the head, which rose 16 ft. out of the water, closely resembled that of a Turtle, with huge scales. It blew up two jets of water to a height of about 50 ft. It moved through the water at the speed of eight knots, and when about 150 yards from the gunboat it plunged beneath it, and appeared on the surface about 400 yards away. A broadside of shrapnel was fired at the leviathan, but without apparent effect.'

"Another French naval officer saw a similar animal off the same coast, but it was of a greyish hue. On two occasions Miss Lovell had a lengthy view of this remarkable animal, and was in close proximity to it, enabling her to give an excellent description of its form, colour, and approximate length. Her description states that it had a glossy skin on the head and neck, smooth and shiny as satin. Whilst taking notes of the animal and its appearance, it put its tail out of the water over the beach only five feet away from her, and held it elevated so that Miss Lovell could have walked under it. The only part of the body that had marks like joints (like in shape and size to a common brick) was also on the shore, and resting on the sand; the great dome-shaped carapace or shell, dull slatey grey, was standing five feet high, and so hid its long neck and head from her view, which, before it rose, she could see as a long shadow in the water. The carapace was smooth and without marks of any sort. The fish-like tail was glossy and shiny like the head and neck, but of a beautiful silver-grey shading to white, with either markings or large scales, each bordered with a ridge of white, but, if scales, not like those of a fish in position, as fish-scales lie horizontally, whilst this monster's scales lay perpendicularly. Each scale was the size of a man's thumb-nail. It had a thick fleshy fin near the end of the body, about three feet from the flukes, and, like them, chocolate-brown. The flukes were semi-transparent, and she could see the sun shining through them, showing all the bones to be forked. The fish-like part was about twelve feet long, therefore the total length of the animal was about forty feet. When making out to sea the 'Serpent' threw a quantity of fish into the air by a movement of its tail. It is known by the aborigines of Sandy Island as the Moha Moha, and, owing to the foregoing description, was placed by Saville Kent amongst the Chelonia, or shield-reptiles, and, owing to

the somewhat Saurian aspect of its mouth-armature and its resemblance to *Chelydra serpentina*, the Terrapin Saurian of North America, which has a rudimentary carapace and horny jaws of a Chelonian, and short clawed limbs and long bulky serrated tail like that of an Alligator, it was named *Chelosaura*. The only part of the Queensland 'Sea-Serpent' that does not appear to be in order is the fish-like forked tail. Beside Miss Lovell, six other whites attested to the description given, whilst a black observed its legs or paws. It belongs to the Tortoise and Terrapins, and not the Turtle section of the Chelonians, and is not the monster Turtle (*Carettochelys insculpta*) of New Guinea. The description in to-day's issue of 'The Age' is in accord with that given by Miss Lovell, and, as Tortoises sleep upon the water, the steamer must have run one of these creatures down."—Yours, &c., ARTHUR H. E. MATTINGLEY (North Melbourne).—*The Age*, Jan. 27th, 1905.

THE ZOOLOGICAL SOCIETY'S GARDENS.

DURING the month of February some valuable additions were made to the Mammalia in the Zoological Gardens. First and foremost must be placed a female Kiang, brought back by the troops from Tibet, and presented to His Majesty the King, by whom she has been deposited in the Gardens. The Society now has three representatives of the Asiatic Wild Asses—a Persian Onager (*Equus hemionus onager*), an Indian Ghorkhar (*E. hemionus indicus*), and a Tibetan Kiang (*E. hemionus kiang*). The value that should be assigned to the different types of Asiatic Wild Asses is still a disputed point. The characters of the Kiang are fairly well known, but it is safe to state that there is more to be learnt about the races of Asses ranging over Central, Western, and South-western Asia than about any large mammal in existence.

Very few Mammalia either dead or alive come to hand from the area of the Palæarctic Region just mentioned. The Society therefore may be congratulated upon acquiring a specimen of the Persian race of Leopard (*Felis pardus tullianus*), never previously exhibited in the Gardens, and a magnificent male Lynx from the Caucasus. This is a representative of the northern Lynx (*F. lynx*), which ranges all over the north temperate portion of the Europeo-Asiatic continent, and appears as the Canada Lynx in North America.

Albino Foxes are said to be very rare. A specimen, therefore, received by the Society on deposit must be considered a great acquisition.

It is not, however, a full albino, having normally coloured eyes, and tan-tinted ears, feet, and tail. It was one of a litter dug out last spring, the others being normally coloured cubs. The British fauna was also represented by a pair of Badgers from Cornwall.

Pheasants are always a good investment for a menagerie, if proper accommodation can be provided. Their gorgeous coloration and fearlessness make them attractive to ordinary visitors. They are also easy to keep, and hardy, lay freely, and will always fetch their price. It is satisfactory therefore to record that in preparation for the coming breeding season the Society's stock of gallinaceous birds has been reinforced by the acquisition of Manchurian Crossoptilons, Japanese, Siamese, Swinhoe's and Peacock Pheasants, Temminck's and Cabot's Tragopans, and Vulturine Guinea Fowl.

Other birds worthy of mention are a Salvadori's Cassowary (deposited), and a pair of young Common Rheas; also five Cocoi Herons and a Roseate Spoonbill from South America; a black Hornbill from the Congo, and two Common Crowned Pigeons. As mentioned in the January issue of 'The Zoologist,' the Society was already in possession of specimens of the Victoria Crowned Pigeons. Hence the two species of these giant Columbæ may now be seen side by side.

R. I. P.

O B I T U A R Y.

PROF. GEORGE BOND HOWES.

PROF. HOWES, whose health had long been precarious, passed away on February 4th, at the somewhat early age of fifty-one. He was of Huguenot extraction, and we read that, while attending a private school, he spent his spare time in making microscopical slides, and a prize of one of J. G. Wood's books incited his interest in natural history. Originally intended for the Church, then for a short time in business, he eventually found his true vocation, and Prof. Huxley, no mean judge of a man, acted as his sponsor. On Huxley's partial retirement in 1885 from his biological professorship at South Kensington, Howes was appointed Assistant Professor, and, in 1895, Professor of Zoology. He was in all respects a follower of his great chief, whose mantle he considered it no indistinction to wear, and was largely interested in the work of our scientific societies—Zoological, Linnean, Malacological, Anatomical, and others. The writer of his obituary notice in 'Nature' states as Howes's belief: "Higher ambition than

that of adding to the sum of knowledge no man can have ; wealth, influence, position, all fade before it ; but we must die for it if our work is to live after us." And thus he clearly recognized the difference between posthumous fame and living notoriety.

FREDERICK OCTAVIUS PICKARD-CAMBRIDGE.

ALL his friends—and he had many—sincerely regret a personal loss in the tragic death of the above naturalist, which occurred last month at Wimbledon, in his forty-fourth year. He belonged to a well-known Dorsetshire family, and was educated at Sherborne, and at Exeter College, Oxford. It was as an arachnologist he was best known to naturalists, a study he had enthusiastically followed under the guidance and inspiration of his uncle, the Rev. Octavius Pickard-Cambridge. But Spiders alone did not restrict the zoological interests of our deceased friend. In these pages (1903, p. 429) he recorded his discovery of the occurrence of the Giant Goby (*Gobius capito*) in the rock-pools of Cornwall ; and he also possessed the soul of the angler. He was enthusiastic in all his pursuits. Some two years ago, when collecting British Dragonflies, we told him of a quiet pond on the Surrey hills where a species could be obtained. On the following day he secured the insect, and his bicycle travelled *via* Norwood on his triumphant return to show the spoil. The news of his appointment at the British Museum to succeed Mr. Pocock did not reach him before he died. He was a man of wide social sympathies, and an advanced thinker ; he was also a good naturalist, and a charming companion.

NOTICES OF NEW BOOKS.

The Cambridge Natural History. Vol. VII. Hemichordata, by S. F. HARMER, Sc.D., &c. Ascidiants and Amphioxus, by W. A. HERDMAN, D.Sc., &c. Fishes, by T. W. BRIDGE, Sc.D., &c., and G. A. BOULENGER, F.R.S. Macmillan & Co., Limited.

THIS volume is of a more physiological and less descriptive character than some of the preceding publications in this series, and, with the Hemichordata and Ascidiants and Amphioxus, this was a necessary expectation that has been well fulfilled. In one hundred and thirty-eight pages Drs. Harmer and Herdman have given a succinct contribution to the knowledge of these more lowly organized creatures, which will be appreciated by any serious student.

With the Fishes, more general interest will be found, or rather a larger number of zoological readers will be reached, though it is possible that the real knowledge of both groups of animal life does not embrace a larger number of authorities in one than the other, though one is of more popular concern. The account of the Fishes has been divided, Dr. Bridge dealing with the subject exclusive of the Systematic Account of Teleostei, which is undertaken by that well-known and competent authority, Mr. Boulenger.

Dr. Bridge has mostly treated his subject in a structural and physiological manner, and his section on "Coloration" is very instructive, particularly when he records the many environmental changes in the hue of fishes. That in some quarters too great a "protective" character has been ascribed to these changes is probable, especially when the change affects both victim and persecutor alike; however, in the last case an aggressive value has been predicated, and to-day biological facts without an illuminating theory seem of nothing worth.

We need scarcely refer to Mr. Boulenger's contribution; he is a well-known master of his subject, and we know when

we read him we can always learn, and from him we may safely quote.

The Sea-Fishing Industry of England and Wales. By F. G. AFLALO, F.R.G.S., &c. Edward Stanford.

THIS is not only a good account of our sea-fishing industries, but it is a volume of more than economic interest, for Mr. Aflalo tells us much about the fishes of the British coasts, and gives that information with no little charm in diction. Compared with our knowledge of the habits of birds, how little we know of the ways of fishes ! And yet, as our author tells us, " We have our winter and summer fishes just as we have our winter and summer birds ; and the Mackerel and Grey Mullet appear along our south coast with the Swallow and the Martin, just as the Cod and Whiting come later with the Wild Duck and the Woodcock." Then, again, how many unsolved problems appertain to the piscine fauna ! "A good year for Pilchards is generally followed by a bad year for Herrings. This alternation of seasons has long been recognized at St. Ives, though no scientific explanation has as yet been given."

We scarcely realize the enormous quantity of fish delivered in London alone. In 1903 the delivery at Billingsgate and Shadwell markets was no less than 216,240 tons, and of this great take 1298 tons were seized and condemned us unfit for food, being at the rate of 1 ton in 166·6, or a little over $\frac{1}{2}$ per cent. The catches of Herrings which have of late years been landed at Yarmouth run into figures that may well " stagger the ordinary imagination." During the season of 1902 between five and six hundred millions of Herrings were brought ashore at that port, while in each of the years 1900 and 1901 the total reached two-thirds of the amount. We could give many more extracts from this book that would be equally astonishing to many naturalists who have confined their studies and observations to the fauna of the land, and sometimes care too little for the creatures of the sea ; but we can advise the perusal of Mr. Aflalo's volume by all those who would know some details of a great national industry, and at the same time learn something of the habits of the fishes that make it possible. There are many instructive and interesting illustrations.

Guide to the Gallery of Birds in the Department of Zoology of the British Museum (Natural History). Printed by order of Trustees.

A NATIONAL museum should serve two great objects—the promotion of science in its strictest sense, and the general instruction of the public; by the publications of the last few years the Director and Trustees of the British Museum have shown that they have both these objects very strongly in view. This Guide has been prepared by Mr. W. R. Ogilvie-Grant, contains twenty-four plates, and seven illustrations—some of which have been prepared by Mr. R. B. Lodge—and is issued at the small cost of two shillings and sixpence. We have sometimes wished that visitors, might at intervals, be personally conducted through the galleries by a competent naturalist, so that some lasting information beyond mere interesting recollection would be acquired; if, however, guide-books like this can come into any general use, very much of that object will be attained. There is no doubt that this Guide constitutes a general introduction to a knowledge of birds; Orders and Families are followed in sequence, with reference to the numbered cases in which the illustrating specimens are contained, and a mass of information is scattered throughout its pages relating to food, nesting, habits, distribution, and other matters, which may give a knowledge and love of natural history to those multitudes who can never have the opportunity and seldom the desire to become thorough students of zoology. These publications fulfil a very important function in national education, they become in the very highest degree guides to nature study, they introduce the public to an adequate appreciation of the fauna of this planet, and they likewise—and this is also important—give the British taxpayer an experience that at least some of the national expenditure is devoted to worthy ends, and might on these lines be increased to the advantage of the commonwealth. We believe "Guides" written on the lines of this one are of great public utility, and we trust that means may be found to increase their circulation among the weary sightseers who may be often seen aimlessly perambulating the galleries with a "Tussaud" appreciation of the marvels of animal life. We also hope that other similar guides will soon follow this one. An "Appendix on the Structure of Birds" adds to the value of the publication, and will assist those who are prepared to go farther in the study.





FIG. 1.

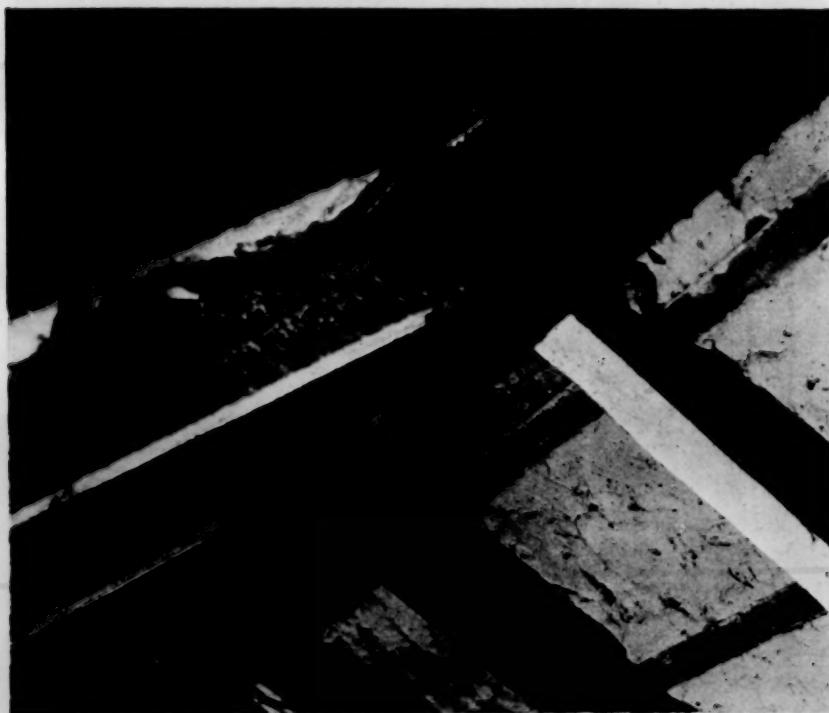


FIG. 2.

NESTS OF SWALLOW (*Hirundo rustica*).
(Photographed by Mrs. New, Backford Vicarage.)